

Rapid structural identification of existing buildings subject to earthquake ground motion: The case study of Chiang Mai and Chiang Rai

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ABSTRACT

In the current research project, three work packages have been adopted. Firstly, ambient vibration measurements have been performed in a number of buildings in order to obtain the building's dynamic properties. Secondly, Finite Element Models have been created in order to check the inelastic properties of selected buildings for different earthquake hazard levels. Finally, a long-term structural health monitoring system using low-cost sensors will be adopted in order to monitor and validate the response of critical infrastructure as well as inform local staff and building occupants of earthquake impact in real-time warning.

Keywords: Ambient vibration, finite element models, structural health monitoring, low-cost sensors, earthquake impact